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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,253	11/21/2001	Sugio Miyazawa	939 033	3003

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,253

Applicant(s)

MIYAZAWA, SUGIO

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003 (Amendment A).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

The corrected or substitute drawings were received on 22 MAY 2003. These drawings are approved.

Specification

Substitute specification, filed on 22 may, 2003 has been approved and entered.

Response to Amendment

Claim 1 is cancelled, thus rejections of claims 1-3 under 35 U.S.C 112 second paragraph are moot.

Claims 4-5 are added.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Sugimoto et al. (US 6208070).

Regarding claim 4, Sugimoto et al. disclose a ceramic envelope (see Fig 1, 2, ceramic discharge tube 1) comprising a barrel section (11) defining a discharge space, said barrel section having integrally formed end portions (12a, 12b), said end portions having an inner diameter (G of Fig 3) smaller than an inner diameter (A in Fig 2) of the

barrel section to form electrode insertion sections protruding outwardly from the barrel section, wherein a boundary portion between barrel section and an inner portion of the electrode insertion section (curved portion defining G in Fig 3) has a radius of curvature between 0.01 mm to 0.3 mm. See Fig 3, and Col. 4, lines 43-48. Note that the radius of curvature at a boundary between barrel section and an electrode insertion section is about E, which is about 1.6 mm.

Regarding claim 5, Sugimoto discloses that the barrel section is elliptical (cross section of the barrel portion is elliptical, circle is an ellipse having eccentricity 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al. in view of Heytmeijer et al. (US 4396595) and further evidenced by Oda et al. (US 4222978).

Referring to claims 2, and 3, Sugimoto disclose a light transmissive ceramic envelope of claim 4. Sugimoto et al. do not disclose a ceramic envelope having an additive of a material selected from the group as disclosed in claim 3, wherein the surface roughness of an inner surface of the barrel section is in the range of 0.01 to 0.4 microns. However, Heytmeijer disclose a ceramic envelope of alumina having additive of 0.06% MgO (see Col. 3, lines 50-60) with a polished finish (see Col. 2, lines 29-34) of

fine alumina of average particle size of about 0.3 micron (see col. 5, lines 50-54) for providing improved translucence. Heytmeijer et al. are silent as to the surface roughness, however, it is the position of the examiner that the surface resulting from alumina of average particle size of about 3 micron is inherently somewhat less than the average particle size of about 0.3 micron, as evidenced by Oda et al. See abstract. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the envelope as disclosed by Sugimoto et al., by the process of Heytmeijer et al. for improved translucence.

Response to Arguments

Applicant's arguments filed on 22 May 2003 have been fully considered but they are not persuasive.

Applicant contends that there is no disclosure in Sugimoto that a boundary portion between the barrel section and an inner portion of the electrode insertion section has any radius of curvature (pointed out in an annotated reproduction of Fig 3).

However, examiner respectfully disagrees about the designated region indicated in Fig 3 as the boundary between barrel section and an inner portion of electrode insertion section.

Claim 4 recites a barrel section (1) and two end sections (2), this end sections having smaller diameter than barrel section to form electrode insertion region.

Sugimoto's ceramic envelope has a barrel section 11 and two smaller diameter end sections (12a, and 12b), which serves as electrode insertion section, that means electrodes are inserted in the end sections. Thus boundary between barrel section and

electrode insertion section is the curved boundary between barrel portion and the end portions, which provide electrode insertion. Thus boundary definitely has a radius of curvature (region having width $E = 1.6$ mm, in Sugimoto's Fig 3).

More over applicant shows the boundary R, in Fig 1a and in Fig 1b, which is basically the boundary between barrel section 1, and two end sections 2, which serve as electrode insertion section (as clearly stated in specification, page 4).

In response to applicant's argument about claim 5, examiner wants to point out that the barrel section of Sugimoto is somewhat cylindrical, having a cross-section of ellipse (eccentricity =1).

References AJ-AW in IDS (Pare # 6), filed on 06 May 2002 have been considered and signed copy is attached herewith.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K. G

Karabi Guharay
Patent Examiner
Art Unit 2879

VIP Patel
VIP PATEL
PRIMARY EXAMINER